WHAT IS CLAIMED IS:

1. A stent for holding open a blood vessel comprising:
   a. a first loop containing section , the first loop containing section arranged generally in the circumferential direction, the loops in said first loop containing section occurring at a first frequency;
   b. a second loop containing section, the second loop containing section arranged generally in the circumferential direction, the loops in said second loop containing section also occurring at said first frequency; and
   c. a third loop containing section the third loop containing section, the loops in said third loop containing section occurring at a second frequency that is higher than said first frequency, disposed in the generally circumferential space between said first and second loop containing sections and alternately joined to said first and second loop containing sections,
   d. wherein the loops in said first, second and third loop containing sections are disposed and adapted to cooperate so that, when the expanded stent is in a curved lumen, cells on the outside of the curve open in length, but narrow circumferentially whereas cells on the inside of the curve shorten in length but widen circumferentially.

2. A stent according to claim 1 wherein compensation, which occurs when cells on the outside of the curve open in length, but narrow circumferentially and cells on the inside of the curve shorten in length but widen circumferentially, results in a more constant density of stent element area between the inside and the outside of the curve than if the cells on the outside only lengthened and cells on the inside only shortened.

3. A stent according to claim 2, wherein said stent is coated with a medicine and said compensation results in a more even dose being applied to the inside wall of the lumen.,

4. A stent according to claim 1 wherein compensation, which occurs when cells on the outside of the curve open in length, but narrow circumferentially and cells on the inside of the curve shorten in length but widen circumferentially, results in a more constant stent cell area between the inside and the outside of the curve than if the cells on the outside only lengthened and cells on the inside only shortened.

5. A stent according to claim 4, wherein said stent is coated with a medicine and said compensation results in a more even dose being applied to the inside wall of the lumen.

6. A stent for widening a vessel in the human body comprising:
   a. a plurality of first circumferential bands containing a pattern of loops at a first frequency;
   b. a plurality of second circumferential bands containing a pattern of loops at a second frequency higher than said first frequency, alternating with said first circumferential bands and periodically coupled thereto to form cells,
   c. wherein loops in said bands are disposed and adapted to cooperate so that, when the expanded stent is in a curved lumen, cells on the outside of the curve open in length, but narrow circumferentially whereas cells on the inside of the curve shorten in length but widen circumferentially.

7. A stent according to claim 6 wherein compensation, which occurs when cells on the outside of the curve open in length, but narrow circumferentially and cells on the inside of the curve shorten in length but widen circumferentially, results in a more constant density of stent element area between the inside and the outside of the curve than if the cells on the outside only lengthened and cells on the inside only shortened.

8. A stent according to claim 7, wherein said stent is coated with a medicine and said compensation results in a more even dose being applied to the inside wall of the lumen.

9. A stent according to claim 4 wherein compensation, which occurs when cells on the outside of the curve open in length, but narrow circumferentially and cells on the inside of the curve shorten in length but widen circumferentially, results in a more constant stent cell area between the inside and the outside of the curve than if the cells on the outside only lengthened and cells on the inside only shortened.

10. A stent according to claim 9, wherein said stent is coated with a medicine and said compensation results in a more even dose being applied to the inside wall of the lumen.

11. A stent for holding open a blood vessel formed of a plurality of triangular cells, each triangular cell comprising:

a. a first loop containing section, the first loop containing section arranged generally in the circumferential direction;

b. a second loop containing section joined to the first loop containing section at a first junction point; and

c. a third loop containing section joined to the first loop containing section at a second junction point and joined to the second loop containing section at a third junction point,

d. wherein loops in said cells are disposed and adapted to cooperate so that, when the expanded stent is in a curved vessel, cells on the outside of the curve open in length, but narrow circumferentially whereas cells on the inside of the curve shorten in length but widen circumferentially.

12. A stent according to claim 11 wherein compensation, which occurs when cells on the outside of the curve open in length, but narrow circumferentially and cells on

the inside of the curve shorten in length but widen circumferentially, results in a more constant density of stent element area between the inside and the outside of the curve than if the cells on the outside only lengthened and cells on the inside only shortened.

13. A stent according to claim 12, wherein said stent is coated with a medicine and said compensation results in a more even dose being applied to the inside wall of the lumen.

14. A stent according to claim 11 wherein compensation, which occurs when cells on the outside of the curve open in length, but narrow circumferentially and cells on the inside of the curve shorten in length but widen circumferentially, results in a more constant stent cell area between the inside and the outside of the curve than if the cells on the outside only lengthened and cells on the inside only shortened.

15. A stent according to claim 14, wherein said stent is coated with a medicine and said compensation results in a more even dose being applied to the inside wall of the lumen.

16. A stent for widening a vessel in the human body comprising:
    a. a plurality of first meander patterns;
    b. a plurality of second meander patterns intertwined with the first meander patterns to form triangular cells, said first meander patterns and said second meander patterns disposed and adapted to cooperate so that after expansion of said stent, when said stent is dispose in a curved vessel, cells on the outside of the curve open in length, but narrow circumferentially whereas cells on the inside of the curve shorten in length but widen circumferentially.

17. A stent according to claim 16 wherein compensation, which occurs when cells on the outside of the curve open in length, but narrow circumferentially and cells on the inside of the curve shorten in length but widen circumferentially, results in a more constant density of stent element area between the inside and the outside of the curve than if the cells on the outside only lengthened and cells on the inside only shortened.

18. A stent according to claim 17, wherein said stent is coated with a medicine and said compensation results in a more even dose being applied to the inside wall of the lumen.

19. A stent according to claim 16 wherein compensation, which occurs when cells on the outside of the curve open in length, but narrow circumferentially and cells on the inside of the curve shorten in length but widen circumferentially, results in a more constant stent cell area between the inside and the outside of the curve than if the cells on the outside only lengthened and cells on the inside only shortened.

20. A stent according to claim 19, wherein said stent is coated with a medicine and said compensation results in a more even dose being applied to the inside wall of the lumen.

21. A multicellular stent for holding open a lumen, comprising:

a. a plurality of even and odd vertical meander patterns, the odd vertical meander patterns being located between every two even vertical meander patterns and being out of phase with the even vertical meander patterns,

b. a plurality of even and odd horizontal meander patterns, the odd horizontal meander patterns being located between every two even horizontal meander patterns,

c. wherein the vertical meander patterns are intertwined with the horizontal meander patterns to form a plurality of triangular cells,

d. wherein said horizontal meander patterns and said vertical meander patterns are disposed and adapted to cooperate so that after expansion of said stent, when said stent is disposed in a curved lumen, cells on the outside of the curve open in length, but narrow circumferentially whereas cells on the inside of the curve shorten in length but widen circumferentially.

22. A stent according to claim 21 wherein compensation, which occurs when cells on the outside of the curve open in length, but narrow circumferentially and cells on the inside of the curve shorten in length but widen circumferentially, results in a more constant density of stent element area between the inside and the outside of the curve than if the cells on the outside only lengthened and cells on the inside only shortened.

23. A stent according to claim 22, wherein said stent is coated with a medicine and said compensation results in a more even dose being applied to the inside wall of the lumen.

24. A stent according to claim 21 wherein compensation, which occurs when cells on the outside of the curve open in length, but narrow circumferentially and cells on the inside of the curve shorten in length but widen circumferentially, results in a more constant stent cell area between the inside and the outside of the curve than if the cells on the outside only lengthened and cells on the inside only shortened.

25. A stent according to claim 24, wherein said stent is coated with a medicine and said compensation results in a more even dose being applied to the inside wall of the lumen.

26. An expandable stent comprising a plurality of enclosed flexible spaces, each of the plurality of enclosed flexible spaces including:

a) a first member having a first end and a second end;

b) a second member having a first end and a second end;

c) a third member having a first end and a second end;

d) a fourth member having a first end and a second end; the first end of the first member communicating with the first end of the second member, the second end of the second member communicating with the second end of the third member, and the first end of the third member communicating with the first end of the fourth member;

e) the first member and the second member with the curved portion at their ends forming a first loop;

f) the third member and the fourth member with the curved portion at their ends forming a second loop;

g) a fifth member having a first end and a second end;

h) a sixth member having a first end and a second end;

i) a seventh member having a first end and a second end;

j) an eighth member having a first end and a second end;

k) a ninth member having a first end and a second end; and

l) a tenth member having a first end and a second end, the first end of the fifth member communicating with the second end of the first member, the second end of the fifth member communicating with the second end of the sixth member, the first end of the sixth member communicating with the first end of the seventh member, the second end of the seventh member communicating with the second end of the eighth member, the first end of the eighth member communicating with the first end of the ninth member, the second end of the ninth member communicating with the second end of the tenth member, and the first end of the of the tenth member communicating with the second end of the fourth member;

m) the fifth member and the sixth member with the curved portion at their ends forming a third loop;

n) the seventh member and the eighth member with the curved portion at their ends forming a fourth loop; and

o) the ninth member and the tenth member with the curved portion at their ends forming a fifth loop, wherein, when the expanded stent is in a curved lumen, cells on the outside of the curve at communication points of the first and fifth and fourth and tenth members, the cell opens up increasing the length of the cell and at each of the first through fifth loops, the adjoining members come closer to each other, to cause the cell to become narrower circumferentially and compensating for the increase in length, whereas cells on the outside of the curve at communication points of the first and fifth and fourth and tenth members, the cell closes down decreasing the length of the cell and at each of the first through fifth loops, the adjoining members move apart, to cause the cell to become wider circumferentially and compensate for the decrease in length.

27. A stent according to claim 26 wherein the compensation which occurs on the outside of the curve and on the inside of the curve results in a more constant density of stent element area between the inside and the outside of the curve than if the cells on the outside only lengthened and cells on the inside only shortened.

28. A stent according to claim 27, wherein said stent is coated with a medicine and said compensation results in a more even dose being applied to the inside wall of the lumen.

29. A stent according to claim 26 wherein the compensation which occurs on the outside of the curve and on the inside of the curve results in a more constant stent area between the inside and the outside of the curve than if the cells on the outside only lengthened and cells on the inside only shortened.

30. A stent according to claim 29, wherein said stent is coated with a medicine and said compensation results in a more even dose being applied to the inside wall of the lumen.

31. A multicellular stent comprising:

a plurality of bands of square cells, each square cell including a first loop disposed generally longitudinally opposite a second loop, and first pair of flexible compensating members joined to the legs of the first and second loops;

a plurality of bands of triangular cells, each triangular cell comprising a first loop containing section arranged generally in the circumferential direction, a second loop containing section connected to the first loop containing section, and a third loop containing section connected to the first loop containing section and the second loop containing section, and

wherein loops in both square and triangular cells are disposed and adapted to cooperate so that, when the expanded stent is in a curved vessel, cells on the outside of the curve open in length, but narrow circumferentially whereas cells on the inside of the curve shorten in length but widen circumferentially.

32. A multicellular stent according to claim 31 wherein each band of cells at the ends of the stent are formed of square cells.

33. A multicellular stent according to claim 31 wherein:

each cell in the plurality of bands of triangular cells includes a third loop disposed generally longitudinally opposite a fourth loop and a second pair of flexible members joined to the cell sections containing the third and fourth loops to form a cell, the bands of second cells interspersed with the bands of first cells, and the first loop and the second loop are substantially aligned along a longitudinal axis of the stent, and wherein the third loop and the fourth loop are offset along the longitudinal axis.

34. A multicellular stent according to claim 31 wherein the bands of triangular cells are interspersed with the bands of square cells to form the stent.

35. A stent according to claim 31 wherein compensation, which occurs when cells on the outside of the curve open in length, but narrow circumferentially and cells on the inside of the curve shorten in length but widen circumferentially, results in a more constant density of stent element area between the inside and the outside of the curve than if the cells on the outside only lengthened and cells on the inside only shortened.

36. A stent according to claim 35, wherein said stent is coated with a medicine and said compensation results in a more even dose being applied to the inside wall of the lumen.

37. A stent according to any of claims 31, wherein compensation, which occurs when cells on the outside of the curve open in length, but narrow circumferentially and cells on the inside of the curve shorten in length but widen circumferentially, results in a more constant stent cell area between the inside and the outside of the curve than if the cells on the outside only lengthened and cells on the inside only shortened.

38. A stent according to claim 37, wherein said stent is coated with a medicine and said compensation results in a more even dose being applied to the inside wall of the lumen.

39. A stent according to any claim 38 wherein said more even dose avoids the possibility that a toxic dose is supplied at one area while a less than effective dose is applied to another area.

40. A stent according to claim 31, wherein said stent is a self expanding stent.

41. A stent according claim 31, wherein said stent is a balloon expanded stent.